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Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

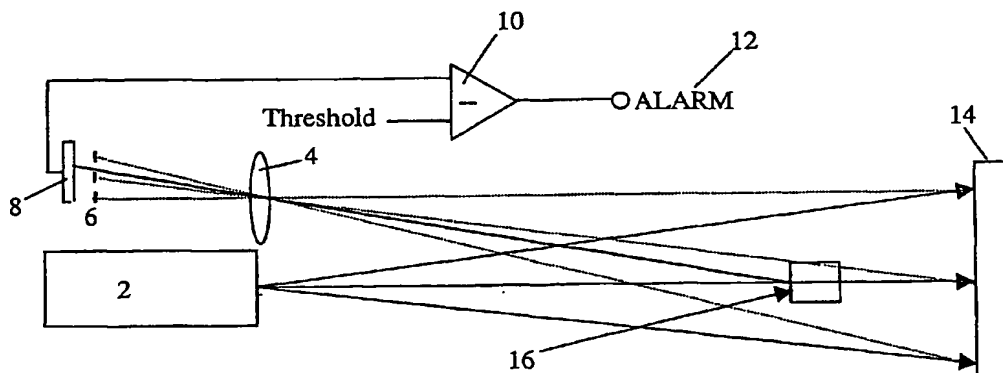
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(54) Title: PROXIMITY SENSOR



(57) Abstract: This invention relates to a proximity sensor. An illumination means (2) projects an array of spots (40) towards a scene. Detector (8) looks towards the scene through a mask (6). The mask (6) is arranged such that light from a target at a certain range, for instance far object (14) is not transmitted to the detector. Light reflected from a close object (16) however passes through the mask (6) and is incident on the detector (8). A rise in the intensity of incident light at the detector (8) is determined by threshold detector (10) and used to operate an alarm (12).

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

Intern:      Application No  
PCT/GB      4861

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7      G01S17/02      G01S17/46      G01S17/93

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7      G01V      G01S      G01C      G02B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2001/035636 A1 (ADACHI IZUMI) 1 November 2001 (2001-11-01) paragraph '0043! - paragraph '0050!; figure 2 paragraph '0105! - paragraph '0108!; figures 11,12	1-6
X A	US 5 793 035 A (BECK JAMES L ET AL) 11 August 1998 (1998-08-11) column 2, line 29 - column 3, line 6; figure 1 column 5, line 7 - line 19; figures 3C,3D column 6, line 27 - line 41 column 14, line 6 - line 7  ----- -/--	1-4,7  10

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
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- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

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- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*G\* document member of the same patent family

Date of the actual completion of the international search

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB 03/04861

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-9

Infrared proximity sensor  
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2. claims: 10-15

Proximity sensor using a light guide  
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## INTERNATIONAL SEARCH REPORT

Intern: d Application No  
PCT/GB 4861

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 726 443 A (CHAPMAN GLENN H ET AL) 10 March 1998 (1998-03-10)	1-5,9
A	column 15, line 30 - column 17, line 64; figures 4,7,9,10	8
A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 06, 30 April 1998 (1998-04-30) -& JP 10 031073 A (NISSAN MOTOR CO LTD), 3 February 1998 (1998-02-03) abstract; figure 1	10,13
A	GOURLAY P M ET AL: "COHERENT KALEIDOSCOPE. II. EXPERIMENTAL OBSERVATIONS OF SIBLING-SPOT FORMATION IN HOLLOW AND SOLID, SQUARE AND RECTANGULAR WAVEGUIDES" APPLIED OPTICS, OPTICAL SOCIETY OF AMERICA, WASHINGTON, US, vol. 33, no. 3, 20 January 1994 (1994-01-20), pages 384-396, XP000425016 ISSN: 0003-6935 page 385, paragraph 2 - page 386, paragraph 1; figures 1,2	10-15

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International patent family members

International Application No

PCT/GB 00/04861

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